

REMARKS

Claims 1-8 are pending in the application. With this amendment, new claims 9-16 are added to further define the invention, and are based on the prior pending dependent claims.

The Examiner has stated that FIGS. 1-13 are not in the case and has requested that new formal drawings be submitted. Accordingly, copies of FIGS. 1-13 are submitted herewith. Removal of this rejection is respectfully requested.

The disclosure has been objected to for not having a description of each figure, i.e., Figs. 5a and 5b, 6a and 6b, etc. In order to have this objection removed, the specification has been amended in order to clearly describe Figs. 5a through 13b.

In order to remove the Examiner's objection, page 4, line 23 and page 7, line 15 have been amended, as suggested by the Examiner, to insert the phrase "less than or equal to" instead of the character representation.

Claims 1-8 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner has objected to the term "prestressing device 20" in the specification. The Examiner states that the term "prestressing device" is vague and indefinite, and describes the flux-conducting ring 21 and thus has a meaning repugnant to the usual meaning of the term. The Examiner further states that the adjective "prestressing" has no meaning as defined in the specification and its relation to the function of the flux-conducting ring in the motor is vague. The Examiner requests amendment of the phrase to more accurately describe the devices, i.e., ring's functions.

The Applicant wishes to clarify the term "prestressing device" for the Examiner in relation to the invention. As stated on page 3, last two lines, the current invention teaches a prestressing device which is preferably an annular soft-magnetic prestressing device. As stated on page 4, lines 4 and 5, the magnetic prestressing (by the device) eliminates the axial play of the armature disk bearing. As further stated on page 4, third

full paragraph, the magnitude of the magnetic prestressing to eliminate axial play can be set via the width of the prestressing ring or ring segment with no change in the overall height in order to avoid unnecessarily large bearing loads, thus extending the service life of the motor.

An added benefit of the prestressing device is the formation of the magnetic prestressing circuit which also contributes to the generation of torque, see last paragraph on page 4.

It is respectfully submitted that the function of the prestressing device is clear from the specification and the term "prestressing" does not describe the device with a meaning repugnant to the usual meaning of the term. In any event, should the Examiner require, the term "prestressing" can be amended to "magnetic prestressing" or be replaced with the term "pretensioning" to further emphasize that the device 20 has a function of eliminating the axial play of the armature disk bearing so that an appropriate smoothness of running can be achieved.

In claim 3, the term "closed" is objected to as being vague and indefinite. The Examiner states that an annular ring by definition is closed in the sense that it forms a closed loop. The annular prestressing device claimed in claim 1 is defined in the specification on page 4, third full paragraph as either being a closed ring or at least a ring segment. The modifying term "annular" has its customary dictionary meaning and refers to "of, like, or forming a ring." Thus, the annular prestressing device is particularly defined in claim 3 as a ring which is by definition closed. Accordingly, claim 3 has been amended to remove the term "closed" to avoid being redundant.

With regard to claim 4, the Examiner states that the term "ring segment" is vague and indefinite as it is not clear that a singular annular ring comprises multiple segments or that an annular ring comprises a segment in its totality, with the implication that there may be more than one ring. It is respectfully submitted that claim 4 is clear and definite. The claim states that the device (20) includes at least one ring segment. The ring segment by definition is not a closed ring as defined in claim 3. One preferred

embodiment of the present invention is wherein more than one ring segment is used. For instance, instead of having a complete ring as claimed in claim 3, the claim 4 limitation means that at least one portion of a ring is utilized as the annular prestressing device. Multiple ring segments or portions can be used as the annular prestressing device generally radially arranged around the axis of shaft 1.

The Examiner has objected to claim 5 as being vague, confusing, and non-idiomatic language. In order to clarify the claim, the Applicant has amended the claim as suggested by the Examiner that the annular flux-return element is located radially opposite the annular prestressing device.

Claims 1-4 have been rejected under 35 U.S.C. §102(b) as being anticipated by Mueller et al., U. S. Patent No. 4,164,690. The Examiner states that Mueller teaches a fan motor in Fig. 3 having an armature disk 59 rotatably mounted and provided with permanent magnets 30, a stator comprising a stator plate 11, and coils 27/28, wherein an annular soft-magnetic prestressing device 26 is arranged concentrically on the stator plate in such a manner that at least one section of the prestressing device 26 is located below the coil window of the coils in the axial direction as claimed.

It is respectfully submitted that the Mueller reference cannot teach or suggest independent claim 1 as presented with this amendment. Claim 1 has been amended to state that the prestressing device has a radial width which is less than or equal to the radial width of the coil window. Support for this amendment to the claims is disclosed at least on page 7, third paragraph, and in the figures. The object of the invention is to provide a disk motor which is characterized by having a flat design, good smoothness of running and high torque. However, disk motors according to the state of the art cannot fulfill the requirement of having a flat design because the same require at least two ball bearings on the shaft. This disadvantage is discussed in the specification on page 3, second paragraph. The disk motor disclosed in the Mueller reference also includes two ball bearings 50/51 at the opposite ends of the shaft, similar to the other known devices discussed in the application. The solid arrangement with at least two bearings that the

prior art disk motors is necessary because of extremely high prestressing forces due to the still standing flux return rings.

The difference between a flux-return ring and the prestressing device is the respective radial size and position with respect to the coil window. According to the state of the art, the flux-return ring is larger in radial width than the coil windows for the purpose of collecting most of the magnetic field lines.

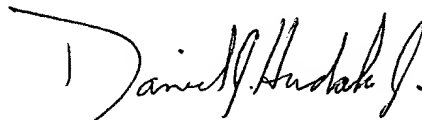
Due to the smaller dimensions of the prestressing device than the flux-return ring, not all of the magnetic field lines are directed to the prestressing device. Accordingly, the prestressing device only has minor tensile force and therefore eliminates the need for a second bearing.

Accordingly, it is respectfully submitted that the Mueller reference cannot teach or suggest independent claim 1 of the present invention wherein the prestressing device has a radial width which is less than or equal to the radial width of the coil window, or the claims dependent therefrom.

It is respectfully submitted that the claims are in condition for allowance and a notice of such is earnestly solicited. Should the Examiner have any questions or comments regarding this response, a telephone call to the undersigned would be greatly appreciated in order to expedite allowance of the application.

Respectfully submitted,

HUDAK, SHUNK & FARINE CO. LPA

A handwritten signature in black ink, appearing to read "Daniel J. Hudak, Jr.", with a stylized, cursive script.

Daniel J. Hudak, Jr.

Registration No. 47,669

DJHjr/sab
2020 Front Street
Suite 307
Cuyahoga Falls, OH 44221
(330) 535-2220
Atty Docket: FMW-JJ-PCT-US (I 788)